Physics and Chemistry of the Earth

Contents of Previous Volumes

Volume 1

The origin of the solar system: SIR HAROLD SPENCER JONES
Temperatures within the earth: J. VERHOOGEN
Radioactive methods for determining geological age: L. H. AHRENS
Seismology and the broad structure of the earth's interior: K. E. BULLEN
The hydrodynamics of the earth's core: R. HIDE
Investigation under hydrothermal conditions: R. ROY & O. F. TUTTLE
The geochemistry of the Halogens: C. W. CORRENS
Geochemistry in the USSR (1948–1953): S. I. TOMKEIEFF

Volume 2

An experimental approach to problems in physical oceanography: W. S. VON ARX
A survey of the quality of some of the principal abundance data of geochemistry: L. H. AHRENS
Boundary conditions for the origin of the solar system: H. C. UREY
Some current aspects of chemical oceanography: F. A. RICHARDS
Recent geophysical exploration of the ocean floor: M. N. HILL
The geochemistry of gallium, indium, thallium — A review: D. M. SHAW
Latitude variation: P. J. MELCHIOR

Volume 3

Palaeoclimates: J. WYATT DURHAM
Geophysical investigations in the Eastern Caribbean — summary of 1955 and 1956 cruises: C. B. OFFICER, J. I. EWING, J. F. HENNION, D. G. HARKRIDER & D. E. MILLER
Continental margins and geosynclines — the east coast of North America north of Cape Hatteras: C. L. DRAKE, M. EWING & G. H. SUTTON
The origin of the elements: A. G. W. CAMERON
Silicate melts systems: E. ROEDDER
The geochemistry of thorium and uranium: J. A. S. ADAMS, J. K. OSMOND & J. J. W. ROGERS
Geochemistry in the U.S.S.R.: S. I. TOMKEIEFF
The electrical properties of the earth's interior: D. C. TOZER

Volume 4

Solar and stellar abundances of the elements: L. H. ALLER
The origin of the main geomagnetic field: R. HIDE & P. H. ROBERTS
Eustatic changes in sea level: R. W. FAIRBRIDGE
Variations of the earth's rotations: SIR HAROLD SPENCER JONES
On determination of earthquake mechanism: E. F. SAVARENSKY, A. M. BALAKINA & A. V. VVEDENSKAYA
The oscillations of the earth: R. STONELEY
The theory of nutation and the internal constitution of the earth: R. O. VICENTE
Chemical and mineralogical aspects of deep-sea sediments: E. D. GOLDBERG

Volume 5

The significance of the chemical bond for controlling the geochemical distribution of the elements: L. H. AHRENS
Recent information on the earth's interior from studies of mantle waves and Eigenvibrations: B. A. BOLT
Geophysical studies of rift valleys: R. W. GIRDLER
Geomagnetic micropulsations: J. A. JACOBS & K. O. WESTPHAL
Chemical thermodynamics in mineral studies: H. RAMBERG
The geochemistry of the alkali metals: K. S. HEIER & J. A. S. ADAMS

Volume 6

Recent evidence concerning the structure and composition of the earth's mantle: D. L. ANDERSON
The application of trace element data to problems in petrology: S. R. TAYLOR
Factors in the distribution of trace elements during the crystallization of magmas: L. V. TAUSON

Seismic surface waves: some observations and recent developments: R. L. KOVACH
Sea-floor relief and mantle convection: H. W. MENARD
Present status of oceanic heat-flow measurement: R. P. VON HERZEN & M. G. LANGSETH
Experimental tectonics: V. V. BELOUSOV & M. V. CZOVSKII

Volume 7

Orogenic fold-belts and a hypothesis of earth evolution: R. DEARNLEY
Earthquake energy and magnitude: M. BATH
Meteoritic, solar and terrestrial rare earth distributions: L. A. HASKIN, F. A. FREY, R. A. SCHMITT & R. H. SMITH

Volume 8

1. Sediment transport and the distribution in the Argentine Basin: Antarctic bottom current passage through the Falkland fracture zone: X. LE PICHON, S. L. EITTREIM & W. J. LUDWIG
   Antarctic bottom current passage into the Brazil Basin: X. LE PICHON, M. EWING & M. TRUCHAN
   Nepheloid layer and processes of sedimentation: M. EWING, S. L. EITTREIM, J. I. EWING & X. LE PICHON
   Bathymetry of the Continental Margin. Argentine Basin and other related provinces. Canyons and sources of sediments: A. G. LONARDI & M. EWING
   Sedimentary structure of the Argentine Margin, Basin and related provinces: M. EWING & A. G. LONARDI
   Exploration and study of the Argentine Basin: A. G. LONARDI & M. EWING
2. The chemical composition of the Basaltic achondrites: L. H. AHRENS & R. V. DANCHIN
3. Environmental influences on the chemical composition of shales and clays: K. H. WEDEPOHL

Volume 9

Kimberlites: Proceedings of the First International Conference on Kimberlites held in Cape Town, South Africa, 1973

Volume 10: The Chemistry of the Moon

Impact cratering and regolith dynamics: F. HORZ
Orbital chemistry: Lunar surface analysis from the X-ray and camera ray remote sensing experiments: I. ADLER & J. I. TROMBKA
The inert gases: D. HEYMANN
Volatile elements, carbon, nitrogen, sulfur, sodium, potassium and rubidium in the Lunar regolith: E. K. GIBSON JR.
Exposure ages and erosion rates for Lunar rocks: D. S. BURNETT & D. S. WOOLUM
Lunar Rb–Sr chronology: L. E. NYQUIST
Potassium–argon chronology of the moon: G. TURNER
The irradiation history of the moon: G. CROZAZ
Petrology, mineralogy and chemistry of KREEP basalt: C. MEYER JR.
Mineralogy, petrology and chemistry of ANT-syite rocks from the lunar highlands: M. PRINZ & K. KEIL

Volume 11: Origin and Distribution of the Elements (Proceedings of the Second Symposium held in Paris, 1977)

Papers cover:
- Cosmochemistry
- Planetology
- Hydrosphere, Atmosphere
- Distribution and Behaviour of Trace Elements
- Geochemistry of the Surface
- Geochemistry of the Oceanic and Continental Crust
- Geochemistry of the Upper Mantle
- Geochemistry and Detection of Mineral Deposits
- Geochemistry and Health

Volume 12: Advances in Organic Geochemistry 1979 (Proceedings of the Ninth International Meeting on Organic Geochemistry held at the University of Newcastle-upon-Tyne)

Papers cover:
- Petroleum Geochemistry
- Biological Markers
- DSDP/IPOD Programme and Recent Sediments
- Kerogen
- Coal
- Stable Isotopes

Volume 13–14: Chemistry and Geochemostry of Solutions at High Temperatures and Pressures (Proceedings of a Nobel Symposium held at Karlskoga, Sweden, 1979)

Papers cover:
- Fluids and the Supercritical State
- Electrolyte Solutions at High Temperature and Pressure

Silicate Melts, Fused Salts and Very Concentrated Solutions
Experimental Methods and Apparatus
Reaction at Extended Conditions in Natural and Man-Made Conditions

Volume 15: Structure and Evolution of the Continental Lithosphere

Seismological determinations of the subcrustal continental lithosphere: I. S. SACKS and J. A. SNOKE
Major and trace element composition of the continental lithosphere: B. L. WEAVER and J. TARNEY
Evolution, growth and stabilization of the Precambrian lithosphere: A. KRÖNER
The thermal structure and thermal evolution of the continental lithosphere: P. MORGAN

Volume 16: Events of the Mid-Cretaceous (Final Report on Results Obtained by IGCP Project No. 58, 1974–1985)

Papers cover:
Transgressions and Regressions
The History of the South Atlantic
Nature and Origin of Carbon-Rich Facies
Palaeoclimatology
Palaeoceanography
Biological Events
Andean Orogenic Events
Regional Geological Investigations
Cretaceous Planktonic Foraminifera: Results of the European Micropalaeontological Subgroup of Mid-Cretaceous Events